Pocket Notebook
PN 27-05-0 (1927)

This notebook dates from May - August 1927. The pocket notebook contains notes by Thomas A. Edison relating to rubber research. The notebook was found in Thomas A. Edison's desk at Glenmont.

May 1, 1929

12/23/29
Copied - typewritten sheets 1 to 8 - (C)
(items not marked out.)

EDIS 223930

1927

✩3346

1927 X

~~See Odom, photo~~
~~tree close up~~
~~shows~~
~~Fruit farm for sample~~
~~2 Colored men~~
~~WEZ come with~~
~~us –~~
~~Both Wachm~~

~~W J Odom~~

~~F. Glomera is the~~
~~name of our tree~~
~~with F.g. on~~

John G Doll —
Roy Root c/o
room
24 Post Office Arcade
Ft Myers

Test hole about 3
miles NW of Estero
3 1/2 ft wide
5 ft long
20" struck Redsh dough
clay sand — one end
struck Rock which is
2' by 4' on top &
2 inches from top —
Top soil apparently 2 1/2
inch thick — then white
sand Etc

St Petersburg Florida
511 First Nat'l Bank Bldg

200 x 200 35 pine Trees

Continued — hole now.
5 ft —
No 1 Top - dark, fine roots
scrub palm

No 2 — Roots & sand

No 3 Roots & sand

No 4 mostly sand

No 5 sand & few roots

No 6 ~~sa~~

No 7 yellow sand

some roots
No 8 yellow sand

No 9 Clay & sand

No 10 strong clay

No 11 strong clay

No 12 Clay

No 13 Clay & yellow sand

No 14 some clay yellow sand

No 15 some clay & yellow sand

No 16 white sand trace clay

No 17 white sand & little yellow

No 18 white sand-

No 19 white sand

Basis

American Rubber Plantation Co -

Object 1st Research on 100 acre planation

2nd If successful process + tree vine etc is found to plant 20 000 acres for growing rubber ~~[illegible]~~ on a 40 cent per lb basis in worlds market If it falls below that sum in worlds market ~~[illegible]~~ + there is no profit + Co stops operating ~~[illegible]~~ Govnt pays 5% on cost until price rises to 40 cents when Co must operate + forfeit interest while not operating

Also upkeep of plantation

In case of war Co will operate if paid 5%

Large Mangos
badly nipped by
frost at Arcadia

interest & deliver rubber
at cost if interest is paid
Commandeered by Govt

Railroad

~~small orange plants~~
~~Not nipped at~~
~~Punta Gorda~~

~~Land from Ft Myers~~
~~to Punta Gorda~~
~~very low dont~~
~~think could be~~
~~drained -~~

~~See if any [illegible]~~
~~Topographic Map~~
~~Florida~~

Better order 3 ~~Cuttings~~
Poinsettia to Fla &
3 to Orange, from
a dozen nurseries
Spread over USA -
Yuma & San Diego
Galveston, Boston
Montreal Etc
to see if they vary
& which is best

Jessup - high ridge
2 Miles about North
Big River - Corn 1 ft
high - Oaks few pine
Woods full green leaf of
of Spring - this river is
500 ft wide enormous
overflow low spots

Ludowici is next high
ground from Jessup
Corn up 10 inches
Pine, Oak. Ridge not
very wide & grass
Chinese umbrella
Trees full leaf -

Allenhurst well
8 miles North
of McIntosh -
A Chase -

Savannah
Corn just up - one
place foot high -

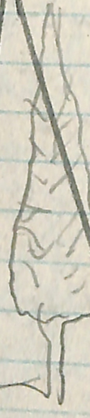
Towns placed
Savannah seem to
be on Ridges
of high land no
drainage needed

Corn 1 ft high 68
miles below Charleston
S.C.

Jacksonboro
or Jacksboro
Saw in swamp or low place
from R.R. a very
conspicuous tree
Pine family —

Saw no other
for miles

It was not
with pines



66 to 80 ft
compact
columnar
see there

Saw 2 as twins in a
yard ~~at~~ town several
miles North

Beans look fine at
Charleston - picked I think
(green) Potatoes look good
Chinese Umbrella tree
in Bloom —

Mt Holly just above
Charleston good
Ridge - 1/2 mile wide
Soil good I think some
farming there are
a number of parallel
ridges 1/4 mile each
Pine Maple Oak
Low land jungles
be good wind breaks

Mt Holly region good
Rolling land + jungles

~~high much degraded~~
~~abandoned land~~
~~good region for things~~
~~like Poinsettia~~

~~Ridges & Islands go for~~
~~many miles north~~
~~from Mt Holly soil~~
~~5" all Red earth~~
~~where pines grow~~
~~must be 50 to acre~~
~~7/10ths Hard woods~~
~~think they grow~~
~~Cotton~~

~~next big town~~
~~Boneau~~
~~flatter but good~~
~~soil.~~

~~Gourdin — good~~
~~farms & well farmed~~

~~Beans etc. Hand grow~~
~~the 1st high land after~~
~~passing river~~
~~the swamp is 2 or~~
~~3 miles wide~~
~~Farms fine Thirty~~
~~settlers 1/2 mile~~
~~wide then a little~~
~~lower & hardly a farm~~

about 1 mile N from
Gourdin is a larger
town didnt get
name — A branch of
Seaboard leaves here —
C 54 on stake
at suburbs North

Should say Start
at Mt Holly to Lake City ~~[illegible]~~
all Cotton beans
oats & fairly
thickly settled &
fairly well farmed
But they are ridges
some high some
low [illegible]

but not so often as you
go north —

Florence 25 miles
South is good Cotton
land & generally
farmed — probably
2/3 of land cleared &
farmed balance too low
water stays too long
they act as drainage
south of the land but
very little [illegible] very
small drainage ditches
Florence is unnecessary
North think South of
Charleston find enough
Ridges — but further
you go south the less
the ridges — but West
on same line probably
is wider —

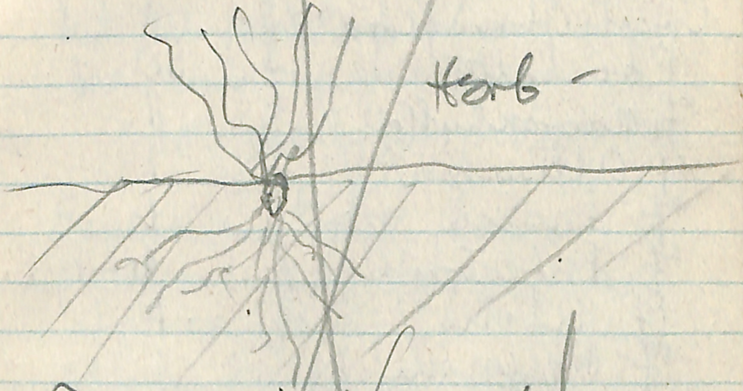
Washington morning May 4/97 trees just started to make leaf - 1/5 size of big leaf - Mandrakes up & partly leafed
Dog wood in bloom many trees (small) in forest no leafs -

Nothing up on Truck farms between W & Baltimore

In fact all farms as a rule are on rises or ridges except Lower Fla all the way up to Orange

Dally Whip Hunt

See if sized MgO crushed with crush in battery pressures



Reverse a herb so roots are aloft & shoots below in ground will it die or do something new

Plant kernel of Corn in green stalk of Corn let it grow out 6 or 8 inches then cut a piece of big stock with it attached & pot it -

Have planted at Ft Myers

P. May 1/27	50
Ficus Elastica	101
Madagascarensis	350
Crypto Grandiflora	1
Poinsetta	50
F. Macrophylla	1
F Altissima	1
F Indica	6
F Infectoria	6
F Utilis	1
F Religiosa	6
F Rubiginosa	6
F Apyeli or Afyeli	6
F Nitida	1
F Benjamini	6
Manihot Glaziovii	6
	15

Given to Jones

All planted in April 1927 Except my trees & the 2 Landolphias planted last year in April 1926

Poinsetta (50) from Oneco planted ~~as~~ May 2 1927 Have ordered 50 more from Everglade Nursery at Myers as soon as he can raise them — 100 more from Oneco

Experiment with latex Saturated Sols of Very Soluable Salts ditto when Latex is nearly all resin

Use Ether as well in Extraction methods: also Extraction by boiling water first then crush & dry & then make Extraction with Acetone & Chloroform

Dogbane (Apocyanceae)

Geographical Mag May 1927
p 586.

Dogbane (Apocynum
androsaemifolium)

The low shrub of the dogbane
with loose clusters of dainty
pink + white blossoms hidden
by dark green leaves often
forms borders to thickets in the
east as well as in the west

In some places in British
Columbia the plants covers
hundreds of acres. Also
very abundant along the
Missouri river in Kansas
+ Missouri where they are
valued especially for Honey

The milky juice of the
dogbane that blisters
the skin and is used
somewhat medicinally
has been found recently
to yield as much as
5% of good rubber Lie

Desert Milkweed NG
(Asclepias subulata)

Excells in the amount
of Rubber in its juice—
which makes it the best
of our native rubber plants

It is leafless most of the
year. Consists of a
mass of rushlike stems
often 6 @ 10 ft tall

It thrives in Gila, Colorado
Mohave deserts

where the rainfall is 1 to 3 inches, it has an Excellent fiber & can be made into fine writing paper

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~~Note~~ It may be green milky plants should not be dried as Rubber may oxidize or change by an enzyme, or fail to polymerize — Perhaps should be treated green by Rolls & ball mills & washed by Violent agitation & treated with Benzol & emulsified & put in a separate vessel & violent agitation & then let settle the Benzol floating to top & holding the Rubber in solution in Benzol — decant & distill off Benzol

When we get MgO granule diaphm for Fund [illegible] in good shape should put a cell in $3\frac{1}{2}$% NaOH & percolate out shellac & find out by testing liquid the time it takes

---

Wouldnt it be safer to tap the top of Hevea so if Cambium destroyed it wouldnt kill the tree - only trouble is Cost Labor

To find out latex circulation an "Anilin" or vegetable dye &c could be hypodermically squirted into the Latex & also sap

Airplanes & tapped at top of tree or the reverse

If a Closed suction was put at top of Rubber tree would root Cambium lift more latex

Try fine grinding + of Vine in ammonia Sol ~~Warm~~ different strengths Then dry by film or Spraying then dissolve in water again + Coagulate in Denat Alcohol

Buy Dozen large F Elastica in pots $1^{\underline{00}}$ Each + use these to Experiment on — ditto larger Poinsetta

Take for instance Poinsetta Cut it before possibility of frost in Ga Ala Etc

Then Cover it over with earth by a Machine so it has Enough earth to be below the frost line — ⑫ so the roots is never below 34°F this would give vigorous + big bush than planting Cuttings in Spring

Wrote Reasoner

Benny Buchanan

~~Why 4 men repairing~~
~~mould dis~~

~~Wash out impalpable~~
~~from 200 mesh stuff for~~
~~Tap water dropper~~

10 H_2O sulphate soda
Melts low in water
of crystallization
Use in place of shellac
for MgO binder on
a ford Coil

ditto Na Sulfate
7 water - melts at
302° Fahr

Trisodic Phosphate 12 aq
MP 77° Cent

Di Sodium phos 12 aq
MP 35° Cent

Soda
Phosphite 5 aq
MP 53° Cent

~~Cart~~ Sodium Potassium Carbonate
$6H_2O$ - MP 100° Cent

Meta Borate Sodium 4 H_2O
MP. 57°C

Carbonate Soda 10 H_2O
MP 34° Cent

Ammonium Sulphate no water
MP 140°C !??

Barium bromide 2 aq
MP 100° Cent

Barium Hydrox loses
7 H_2O at 15° Cent MP 78°C

Chloride Calcium 6 aq
MP 29.9° Cent

Calcium Bromide 6 aq
MP 34.2 Cent

Calcium Sulphite 2 aq
MP 100° Cent

Mg Chlorate 6 H_2O
MP 40°C

$MgCl_2$ 6 H_2O.
MP of 2 H_2O is 100°C

Mg Nitrate 6 H_2O
MP 90° Cent

Ammonium Phosphate
MP 123° Cent

~~Dissolve shellac in NaOH water — dilute + filter~~

~~Then precipitate with H_2SO_4 + wash well free SO_4 then dry — then redissolve in NaOH + get right strength~~

~~See if Shellac NaOH sol is precipitated by pouring into Electrolyte~~

~~Try new 40 min Rapid wear test on straight feed Super for wear~~

~~Have Walter Miller ~~studio~~ track a 12 Record so can test new cut off Electric~~

~~Base for separators other than MgO~~

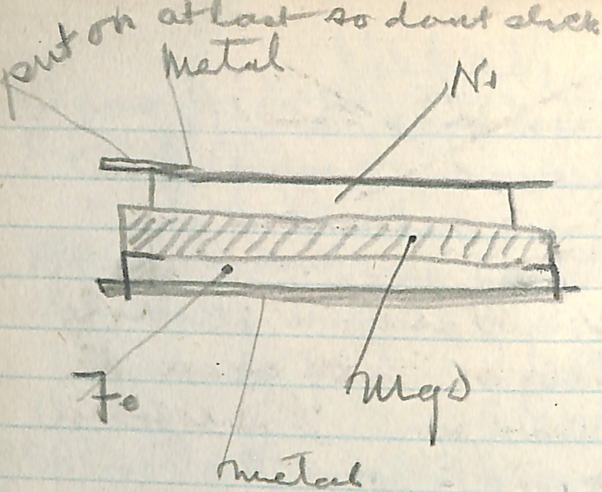
~~MgO~~	~~0.0006~~
~~Mg CO_3~~	~~0.0106~~
~~Mg fluoride~~	~~0.0076~~
~~$BaSO_4$~~	~~0.00017~~
~~$Mg(BO)_2$ $8H_2O$~~	~~Insoluble~~
~~Pyrophosphate Mg~~	~~Insol~~
~~$CaCO_3$~~	~~0.0013~~
~~Ca NH_4 Phosphate~~	~~Insol~~
~~Ca Hypophosphate~~	~~Insol~~
~~$BaSO_3$~~	~~0.0022~~
~~Ba Chromate~~	~~0.00038~~

Medeft
Cyclopedia of
~~American Agriculture~~
~~find out about it~~
~~if now published how~~
~~many Volumes price~~

~~Try dissolving $MgCl_2$ 10aq~~
~~in alcohol saturated~~
~~+ moisten MgO + test~~
Ok good

~~Think we are not recording~~
~~loud enough on 40 min~~
~~Record — Look at Jazz~~
~~record & also We tell others~~
~~with Micro~~

~~Hunter = WE must~~
~~get rid of Copper~~
~~plate your Copper~~
~~Tank~~



or Ni at bottom Fe top
no chance for short
Ckg May 16/1927

Rubber Think that plants
which have most rubber
in leaves & scarcely any
in stem - leaves could be
pulped fine and Ammonia
water used that latex
would run thru the
filter free of fibre
& then Coagulated

~~by acetic acid~~

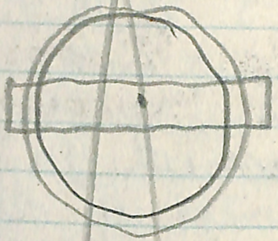
~~If leaves are dry~~

Test some of MgO $MgCl$
slabs for Nott going to
pieces in 1% Electrolyte.
2 3 5 10 + 21 %

When we dry plants
powder up should after
drying wet with dilute
acetic or formic to
Coagulate the rubber
Dry & grind in ball
Mill with water

15 grams thru 50 on 60
3 cc water saturated
sol of $MgCl_2$
mixed with finger till
dry

½ MgO + NiOH.



Broke at 4.6 oz
Center load —
wonderful

Can Copper be got out
of $Ni(OH)_2$ by Ammonia
Etc –

Following metals are
reduced by iron & spoil
Contacts by making Red
iron hydrate

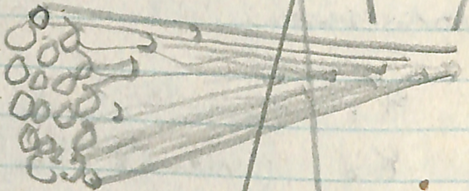
Copper – Bismuth Arsenic
Lead Mercury Silver
Thallium

Also bad contacts by
Combining with iron
Sulphur – Tellurium &
Selenium –

$Ni(OH)_2$ hurt by
Aluminum hydrate
Tantalum "

Have Strong fellows
make up test cells of all
the good ones that
Payne saved of CO_3
of Fe + same Reg with
+ ~~without~~ Hg +
Continue ~~the test~~ —

May 21/1927



Horn
Long funnel composed
of many small funnel
96 of them — Tuned to all
the available notes of a
piano. Record made
on phono accurate
as to speed + Repdo
Controlled so it is exactly
same

Works labor +
Material Cost of
Shaving Machine
Motor for Ediphone
is $4.85. Complete

---

20 000 Poinsettia per acre
1 gm per bush

1 gm	44	lbs acre
2	88	
3	132	
4	176	
5	220	
6	264	
7	308	
8	352	
9	394	
10	440	

weight 1 lb 446 g

1% is	4.46	gm
2%	8.92	"
3%	13.38	"
4%	17.84	"

~~Schwerka analyses~~
~~of Calcined Magnesite~~
~~from "The General Magnesite~~
~~& Magnesia Co"~~

~~Silica & insoluble 1·40%~~
~~Fe & Al_2O_3 1·40%~~
~~CaO — 4·48~~

~~I think if chloroform extract is concentrated & hot and then poured into hot alcohol & allowed to cool off the resin not disolved out by Acetone will disolve out in the hot alcohol & we shall get a much purer rubber~~

It is possible to first Exhaust with Acetone then Exhaust with another Solvent which does not disolve any rubber so the unknown stuff will not come out with Chlorof. so we can get a purer rubber —

Try Coagulating with Butanol also the other new Alcohol

Also first boil in Soxhlet with Water - distil off water, then proceed with Acetone & Chlorof. Extraction

Chalk phone MgO-

Slit + shutter to permit light to pass slit + strike path of pressing electrode in advance to alter adsorption film + amplify – by dif in friction

Technique

Poinsettia 1 inch dia gives latex after pulled + Dryed 2 months in field, leaves stem + root

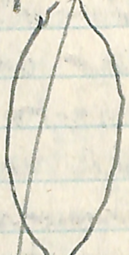
I believe bark of all flowing latex plants do the same

If that is the case + that [illegible] drying is unimportant

to coagulate the latex to rubber, it will be necessary to grind thru 20 + Dry each plant if it fails in Ball mill to give proper rubber

another batch should be tried thru 20 + ~~[illegible]~~ moistened with alcohol or dilute acetic then it can be dried or wet in Ball mill, then it will ball up

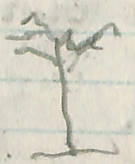
In 1st road in about a
Mile at junction of 2
road. down hill Minn
discovered a straight
stem plant



this shape leaf

Almost actual
size leaf

Enormous root
Creepers probably as
Large numbers close
together 29th May
2 ft high stands
3/16 dia leaves at
top



Big Valley

full resin

This is probably the
Spreading Dogbane
its in that side road
with blind end, on hill
just before the little
town where we meet
the Valley road to
Summit [illegible]
road —

also got a low plant
there planted Dogbane
this plant —

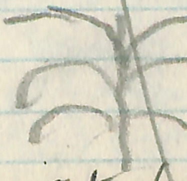
On road, over Valley
road to Summit
Mt Road just beyond
the Dairy on side
road to right

is a fine place for
sumac unlimited
amount —

The reason F Elastica
gave latex for 17 continuous
hours with the closed system
& water is largely due to
non oxidizing atmosphere
preventing acid fermentation
& coagulation of rubber
at the mouth of the
Lactiferous channels
This can be made still
better by Vent hole being
filled with powder or
Cotton & putty used
in Water dropper

found roadside right
side going south lot
of Milk weed not far
from Drams Station
road — its on Main
road — 50 or more
plants in 150 ft
Below Drams
this side of Drayton
turned right along
this road found
a def variety of
Milk weeds

1st



big leaves

Got 6

Same road 1000
ft beyond a tall
variety & more slender
stem got 6. lots milk
leaf like 1st lot
on main road

Evans & Drayton near
Princeton - flat lands

Dirt roads good for
Rubber plants

On road to Princeton
from between Evans &
Drayton we got on a
dirt road which was
specially good

Memorial day we
found in Evans Drayton
4 kinds of milk weed
all appear alike but
there were difference
in size & shape of leaves
& size of stem of plant
& [illegible] height and
angle of leaves standing
out from stem. The
large diameter stem
gave most latex - There
was one which had a
more slender stem
& taller species gave
the least milk —

I believe there are many
variations of a single
named plant & great
variations in milk
production which has
not been noted & realised

would account for
Variations from 1/4% Rubber to 5%
rubber apparently from same plant
whereas if all the slight deviations had been observed would have shown that they were different – only by selecting seeds or superiors planting of ~~fr~~ digging up variations can proper test be made

Euphorbia, Myrsinites, Var
Very POISONOUS

Latex causes bad swelling of hand
Wayside Gardens Mentor Ohio say his men haste wear rubber gloves

Scheme 1

Exhaust dried chips thru 30 mesh, acetone then Pentachlorethan checked by Bengal

Scheme 2

Grind thru 30 mesh put in Ball mill 8 hours heavy balls. 1200 cc water 50 Revolutions

Scheme 3

Slice in 1/16" inch lengths
percolate with ammonia water & filter to get a very dilute latex
precip by acetic or salt solution

Plan 4
(green) [illegible]
Slice in 1/4" pieces
fill Column 1 ft Tapered
at End (lower) - pass water
through containing Ammonia
etc or Carbonate soda
Pass it through [illegible]—

Plan 5 pass milky water
through 2 or 3 times—
making very dilute latex
Coagulate by acid

Plan. 6. Dry plant. exhaust
with gasoline & coagulate
with Acetone. Guayule people
use this method

Plan 7 - Cut ~~cut~~ throw out
Latex by centrifuge

Plan 8 - Cut fine ~~[illegible]~~
& squeeze liquid out in
Bags in Hydraulic

Plan 9 Dry grind fine - extract
with gasoline, Benzol or
Pentachlorethane soak then
displace Penta etc by water
in a Column

2nd Sunday Heightstown
Road 1st stop on previous
Sunday — Not enough
Size to 1 drop to
leave stalks - V poor

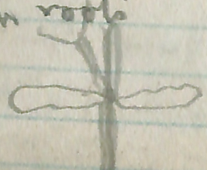
Sol in 100 pts H₂O

Calcium Oxide 0·13 at Zero C
" Hydroxide 0·17 "
More sol cold than hot

Barium Oxide 1·5 "
Sol Hot - 80°C 90·
Hydroxide hot at 100°C 34· cold 5· at 15°C
Sol alcohol

Strontium Oxide cold Decomp to Hydrox
Hydroxide, 0·4 Cold Zero C
" Hot 21· 100°C
Sol in NH₄Cl.

~~On road (dirt) ruff to Blammburg~~
~~towards a mountain~~
~~found the Tall slender Vine~~
~~same as we found 1st~~
~~day out near Orange~~
~~good mildly Dug up~~
~~with roots~~



~~Didnt dig all think there~~
~~is plenty & next time bring~~
~~box & dig big lot & settle with~~
~~each & test them also~~
~~Save one for identification~~
~~There same plant just at~~
~~foot of hill reached & a~~
~~farm house on next hill~~
~~ahead-~~

~~At Blankaway turned~~
~~left to Hopewell only~~
~~went a short distance~~
~~& turned on dirt road~~
~~thru gap, there found~~
~~lots of the 1st discovery~~
~~made - left hand side~~
~~road no house near~~
~~grows along water~~

~~On Road Neshantia To Summerville Milk weed plenty all along~~

~~Perhaps 2 Miles from Neshanic going to Somerville left hand side - the [illegible] nursery are growing~~

~~Euphorbiacea~~

~~Acalypha~~

~~Copper Leaf~~

~~Fla used for hedges A-hispida Common of sort its annual some perennial Can be grown single stem or a bush] 7 Kinds in Bailey in appendix at end of Article 2 or 3 more among which is Marginata which we have see if Nursery Men have any~~

~~Tung oil tree is a Euphorbiacea = get test for milk at the place in Fla where they are growing & I planted some seeds at Ft Myers test bark for rubber Baily Vol 1, p 245~~

3° means 3 ft

1 indicate inches
11 " lines of 12th of an inch
12" 1 inch — oh!
see if Lima & Amend
have porous tile thin
if not get pipes or porous
cup stuff. Cut in
1/2" square. Wet with
20% acetic & present
wet face to a drop of
Latex exuding —
press it & detach rub to
dip in water roll it &
test elasticity

Suck drop by using
a dropper of small
size & put in 20%
sol acetic do
same thing —

Schmucker test Milkweed
sliced dried 120 then
ground coffee mill —
then 220 in a vacuum
see if better extraction

~~[illegible]~~

One stem with leaves
of Syriaca Milkweed
Weighs 60 grams after
collected 3 days
well slice in 1/16
leaves & all & dry to
get dry weight
After Dry Weighs
15 grams 75%
water

Hops are Urticaceae

Cassava (Tapioca) is Euphorbia — grown in Florida & other states now

Ulmaceae Ramie fibre

Jun 30/27

It is possible that by putting in hypodermic needle with some 1/10 of 1% Acetic acid in 100 waters that in the latex system of plants that Rubber would be coagulated in plant & if kept up in time the system might get full of rubber & give big yield dry water system

July 1 1927

Just made a big advance.

By cutting plant or shoot ~~[illegible]~~ in thin slices & drying quick ~~[illegible]~~ then powdering by ~~[illegible]~~ meat chopper then Coffee mill & passing all through 20 mesh screen the Exhaust everything possible with boiling water then dry it & analyze with — Soxhlet 1st Acetone 2nd Benzol we More than double the rubber we

have been getting
by the usual book
methods —

At our garden
Euphorbia Corollata
planted May 26/27
Very slow to start
appeared above ground
& is now 4" high 2 shoots
another 4 shoots

Campanula Carpatica
planted May 26/27
Very low very slow
grower only 2" above
ground
abloom july 1

Asclepias Incarnata
Rapid grower, planted
May 26/27 now
July 11 — 3 shoots 2 shoots
3 shoots + average
2 ft high

Euphorbia Polychroma
planted May 26/27
Slow grower only
6" high several shoots
Each plant

Asclepias Tuberosa
p- May 26/27. Very
stout 6" high
2 shoots starting
to flower

4 Poinsettia
planted May 27/27
Tops died was in pots
now all coming up
3" above ground
1 however did not die
at top & that has grown
12" high but only
3" is new -

Poinsettia from Cal
sticks - planted
June 1/27
5 kinds of poinsettia
Now all in big leaf
4" of green shoots
Many shoots coming
out from stump

May
Lactiflora Caerulea
~~all~~ dead 1 living

Grandiflora
Alba Magnifica
Alive no height
4 plants - very little
growth -
Euphorbia Corollata
low - all alive
5 @ 5½ high above
p - May 26/27

Euphorbia Myrsinites
all having slow
growth. 2½ to 3"
high — this has lots latex
in leaves — the 1st 2 to right

(Only satisfactory
plants for growth
July 1 is Asclepias
Incarnata &
(Euphorbia stick
Poinsettia from
California

Latex neither
have rubber

I judge from this
that greenhouse grown
plants are weak & tender
& abnormal. That grown
as shoots & stuck in
the ground & grows
out doors gives best
results (as far as)
Euphorbia is concerned
& they should be long
so large part goes in
Earth, & 1' or 1½ ft
in air — Straight
stems selected —

See Medoff & see if
he has dates when
stuff shipped to us
was planted also
Mrs J.V.M plants date
hereafter known

plants must have
date received & date
planted —

I note in cutting up
Madagascarensis in 1/2 inch
lengths & then grinding
in meat chopper, That the
bark fibres separate
from the hard wood
by screening 90% of
wood can be got out
in large pieces — if there
is no rubber in it it
would be fine process
as this could pbly made
into wood pulp —

The bark fibre could be
boiled & then ground
in bath mill to get
Rubber

This would be true of
Poinsettia & probably all
Shrubs —

After grinding the bark &
fibre it could be used
or mixed with wood
pulp to make a coarse
but strong paper

The residue from boiling
given by product of
Tannic acid & resin
possibly

Judging from sticks of
poinsetta from Californ
& the pot poinsetta —
I cut off that had live
roots the latter will
give a shoot 4" long
in 1/2 the time of Californ

sprouts as they start without roots to help

Cinchona (quinine) tree ½ the bark is removed in longitudinal strips then Moss bound around the bark renews quickly & gives more quinine than original bark when stripped again. The tree thus lasts for years

Another plan if shoots springs from roots is to Cut tree off & leave the shoots & they grow up as trees

Try bleeding Camphor tree with Turpentine as solvent same as Pine Tree with our new Tapping System probably Alcohol be better - or oil Sassafras or Safrol or cheap volatile Oil. Camphor sap Comes from the heart wood like Pine tree -

Possibly if Shrub is watered every few days with very dilute acetic 1/10 of 1% that rubber will be coagulated in the laticiferous system & thus rubber % will be increased possibly watered with acidulated water & allowed to

stand for 2 days to
be followed by lime
water then given a rest
for several days. then
with acetic to take care
of lime & give free acetic
1/10 of 1% ~~free~~ They Ethering:
plants & Grandiflora
plant will take up
dye Could test this
acetic scheme
Perhaps Formic be better

If it works a Madagascarine
Could be built up from 1%
Rubber to 6% or more when
Cut.

Payne July 5/27
I think we can mould
new Mg plate without
holes & punch them
in afterwards OK

Sullivan to collect
all kinds of old
Cylinder reproducers
for Joe to make
attachments for

Important Euphorbia for me to get. Bailey Vol 2 page 1615. Hura. H Crepitans trees may be grown in Greenhouse abundant milky juice - poisonous. called the Sand box tree often planted in Tropics from Fla to California

Hyaenanche, hyena poison tree, Euphorbia small tree but can be grown in Greenhouses. Single species is H. Capensis a much branched tree 5 @ 6 ft high S Africa used by natives to poison Hyenas, the Latex being poisonous
Bailey Vol 2 1618

Bailey Vol 2 1938
- Euphorbia Mabea Guiana Brazil. has yields some Rubber
shrubs [illegible] climbing

Joannesia - Euphorbia hardy in California Milky latex - trees, ornamental grown in Cal grows easy in poor soil, stands long droughts. J-princeps. Bailey Vol 2 1720

Get J B S Nortons works he seems to specialize in Euphorbia see if publication at Bronx

Note Bailey Vol 2 1860 banking plants prevent freezing

See if publication of Kew Gardens kept at Bronx
yes read them MG

Parthenium (compositae)
Argentatum (Guayule)
Another one is P. integrifolium
Common name American ~~Fe~~
Feverfew or prairie dock
Grows on dry soils Minn to
Georgia – (and this may
have rubber & no latex)
P 2477 3 Vol Bailey

Euphorbia

Phyllanthus species
500 species. Breynia Nivosa
(small) Snow bush
P purpureus,
P Ferdinandi, hardy in California
P grandifolius
P Emblica, myrobolan shrub or
tree much branched
P longifolius low shrub
hardy in California

P acidus Otaheite Gooseberry
West India Gooseberry
shrub or small tree up to 20 ft.
grows India Madagascar
There are about 8 more
recorded not copied here
see Bailey Vol 3 2605 2606 2607
May not show latex
but have Rubber in bark

On cellars to store cuttings
etc without continued forcing
Vol 3. p 2686 only cuttings
not for plants

Frangipani gives latex
we have it at Myers its an
Apocynaceae They are a
dozen species named
Plumeria -
say milk flows freely
tenacious, get other varieties

Our Poinsettia is P pulcherrima

Get from D Van Nostrand

Manual of Poisonous Plants
by H L Pammel prof Botany
Iowa State College of
Agriculture part No 1
1910 - part 2 1911
977 pages in both

Securinega, (Euphorbiaceae)
10 species bushy round
shrubs slender wandlike
branches They have
proved fairly hardy at
Arnold Arboretum only Tips
frosted, propagated by seeds
& green wood cuttings
under glass 2 sexes must
be present 4 other
Varieties Bailey 3 vol p 3125
Look it up

Synadenium, (Euphorbiaceae)

Thick branched shrub succulent?
10 species

S. arborescens 4 ft high

S Grantii African milk bush
shrub 10 ft high or less, high
branched. Look this up

Tabernaemontana
(Apocynaceae)
Evergreen 160 species
T Coronaria & T Camassi
grows everywhere in Fla
from Jacksonville south
dense bushy plants
page 3304 Vol 3 Bailey
Nehrling gives full instructions
about planting, says to
bank just before cold season
Christmas bank 18" to 2 ft

~~with dry sand, all kinds frost~~
~~sensitive plants come thru~~
~~OK in April or even earlier~~
~~remove sand + plants cut back~~
~~to sound wood~~

~~T Coronaria shrub 6 to 8 ft~~
~~high. Cape jasmine or Nero's Crown~~
~~a variation flore-pleno is~~
~~more generally cultivated in~~
~~Southern states, its known~~
~~as Adams Apple or East India~~
~~rosebay~~

~~T Grandiflora small tender~~
~~shrub also T dichotoma~~
~~6 ft high~~

~~Trachelospermum~~
~~(Apocynaceae)~~
~~Shrubs - [illegible] in the south~~
~~Called Confederate jasmine~~
~~dense bushy 3 @ 4 ft~~
~~star jasmine 2 other~~

~~See Whalen about getting~~
~~a Camera take 7" plate~~
~~close up = try a Gooseberry~~
~~& Currant bush -~~

~~Put up 6 1/2" Madagascan~~
~~in one beaker with x cc~~
~~of water mixed with~~
~~2% acetic so it has~~
~~1/4 % acetic, change~~
~~water after 10 @ 12 hours~~
~~till clear, filter water~~
~~+ save it + filter paper~~

~~6 1/2" lengths Madagascar~~
~~with saturated Lime~~
~~water 1/2 plain water~~
~~1/2~~

~~6 1/2" Wedge in NH_4~~
~~water weak –~~

~~Rig up with clay~~
~~Cup around 3 Poinsetta~~
~~top every day with~~
~~gillette blade 3 pls~~

~~Ditto, Ficus Elastica~~
~~use Clay Cup near~~
~~top – so dont run down~~
~~too far~~

~~Make water 1/4 %~~
~~Acetic + water one~~
~~of our poinsetta plants~~
~~right along – use [illegible]~~
~~to see if activity keeps~~
~~up – + if plant will~~
~~stand it keep up~~
~~all summer then cut~~
~~a branch for test by~~
~~perfected analyses~~
~~to see if rubber~~
~~accumulates test~~
~~by gillette knife now + then for~~
~~Latex + quality Latex~~

~~Dissolve some Crepe~~
~~rubber in Rengol~~
~~put in 2 parts one~~
~~pass air thru Cold~~
~~the other with Reverse~~
~~Condenser strong jets air~~
~~hot~~
~~Then Evap + see~~
~~quality of rubber~~
~~if oxidized~~

Lot of 1/2 Madagas in
~~bottle~~ flask with Reversed
Condenser Water containing
5% Sodium Sulfite hot plate

Make a trial of flask
with Sulphate Ferrous
reverse condenser see
if it ox quickly

1/2" Madgascar in cold
water_

Miller to write about
to tell Fiske to plant
all the plants received
from day to day from
the 10 men out collecting
& to make a report
to you giving numbr

& mans name & date
of planting —
& get a duplicate of
all plants shipped in
by the men and Reasoner
also —

Write the California
Poinsettia man to
Collect for me a lot
of seeds —

put up 1/2" Madgascar
water & some phenol

ditto phenol & 1% Acetic

do 1% Acetic & 1%
formaldehyde

Perhaps when rubber plant ~~etc~~ is cut it should be quickly chopped up & thrown into weak sulphuric acid water say 1/10 of 1% soaked for 24 hours then dried perhaps soaked hot — the H_2SO_4 being non volatile stays in plant & when dry is still in & not like acetic HCl etc the rubber is entirely Coagulated in situ

It may be in Soxhlet apparatus that in the Ether Chloroform Benzol Etc solvent a drop or 2 of Acetic anhydride or perhaps better glacial acetic put in to Coagulate rubber so dont oxydize so easy

In any event believe new plants cut should be chopped up & soaked in weak acetic etc or ends kept in acetic to prolong & Coagulate the rubber so it would not be so prone to oxidation the whole of the rubber when cut is in tubes & should be changed to rubber by Coagulation

Boil some 1/2 of also
Euphorbia lengths
Madagas with
in water
1% acetic
strip bark
off & pull in
rolls machine

Get this book

Der
Manihot-Kautschuk
By Zimmerman
Published by
Gustav Fischer
Jena Germany
1913

ordered from Wertheim
D Van Nostrand

---

5 1/3 gross

Get

6 gross

---

4 gross for turpentine
1 gross for skimming
rubber

Latex from bush or any plants the drops should be collected in water slightly alkaline by NH_3 + made dilute by using perhaps 25 cc to 5 or 6 drops latex

Then acidified to make whole slightly acid using an extremely dilute acetic sol + shaking + let rest over night good rubber should collect at top free from mucous, chlorosteral + resins — as they tend

get tangled up when a
Conc drop enters a
Coagulating solution

If this works latex
plants can be passed
thru rolls with ammonia
water, then soaked in
Excess to get non rubber
out & rubber also—
then precip by weak
acid & washed—
all water as far as
possible removed
& hard part put in
grinder (ball Mill—
Etc

Try Myrica End in
Ammonia combine
ditto Poinsettia,

with Hevea latex dilute
try adsorption to
Coagulate— then
Try a poor latex & see
if rubber is carried
down without the
proteids or resin

Add Rosin in alcohol
precip it colloid by
Water then put in
diluted Hevea latex
& use bone black
Fullers Earth Etc
Electrolytes—

Woman anonymous
writes that in Making
Elderberry wine she got
a lot of rubber like stuff
in squeeze bag   Test

Buy some Glutin
Pectin, Pepsin
Papain, rennet
agar agar, use
gelatin. Blood Albumen
+ add dilute Alka-
lities to above dilute
solutions + coagulate
with alcohol, acetic
Electrolytes Etc

In addition add
rennin to get a poor
sticky rubber -

Phenomenon

Took some [illegible]
[illegible] (Cassava) milk
diluted with water
shook with Bone black
Coarse, threw on filter
dried again to a chunk
to extract with Chloroform
He reports 78 milligram
+ good rubber good
elasticity —
Error

Think this is Error

Have sent for some
more roots to repeat
Expt. 49 —

July 23/27

New Scheme

With all Latex from Various plants, dilute largely with water Then add Bone black and aggitate until the Colloid is adsorbed, filter and dry then Exhaust with Acetone + afterwards Benzine or Chloroform In many cases Chloroform alone will do for

---

Some Latex's can be dried + then exhausted others dried at temp that will coagulate the proteids + rubber if any + chloroform used to exhaust the Rubber and without the use of ~~Lamp~~ bone black

Others can be done same way Except latex mixed with Chalk or Carb Mg or fine Sand + dried, - can be used over again by burning etc

---

Collect all the liquids we have then buy all we havn't from Eimer + A Cooper! + others, Baker Eastman + others

Also make up water Solutions of Organic + Inorganic Strong Sat. Solutions, ~~[illegible]~~

~~Wax very widely defused in the~~
~~Vegitable Kingdom in stalks, leaves~~
~~fruits Etc~~
~~Carnauba Vol 1 805~~
~~Cork wax or Cerin Vol 1 837~~
~~Pine wax or Ceropic acid Vol 1 836~~
~~Ocuba wax Vol 4 173~~
~~Palm wax Vol 4 337~~
~~Sugarcane Wax or Cerosin Vol 1 836~~
~~Myrtle Wax or Myrica tallow Vol 3 1069~~
~~Chinese wax, Cerotylic-cerotate~~
~~Vol 1 837~~
~~Cow Tree, Palo de Vaca or~~
~~Brosimum galactodendron~~
~~wax Cow Tree has rubber~~
~~latex wax dissolves completely~~
~~in boiling alcohol~~
~~Saponified by alkali~~
~~See about Rubber in Cow tree~~
~~Jr of pr Chemistry XXi 43~~

~~Cuba wax unknown source~~

~~imported from Cuba~~

~~Japan wax from root of~~
~~Rhus succedanea~~
~~sol in boiling alcohol but only~~
~~slightly in alcohol at~~
~~ordinary temp Sol in ether~~
~~+ Volatile + fixed oils,~~
~~(Here is a case) it not a~~
~~true wax as it saponifies~~

~~Stop wax, bees cover lap~~
~~of cells with it~~

~~Candellera —~~

~~Collect more names of~~
~~Vegitable waxes~~

~~Over~~

Bees wax - Myricin Vol 3 1069
insol in boiling Alcohol consisting
mostly of myricic palmitate
Cerotic Acid dissolved by
Alcohol boiling
Cerolein remains dissolved in the
Cold alcohol.

Wax butter purified by pressing
from the oil is mainly composed
of the hydrocarbons Cerotene
+ Melissene together with
palmitic acid

Chill out the wax etc
from our rubber Extraction
by solid Carbonic acid
around the beaker or
put in liquid -

Treat some of our rubber
Extraction while in
Watch glass by boiling
solvents not dissolving
rubber -

Instead of precipg
Latex in Alcohol
precip in Ether +
remove at once
+ squeeze —
possibly some
Acetic acid
in Ether -

~~Sec of hevea with strong~~
~~Albumin Ammonium Sulphate~~
~~precips anything ie~~
~~Coagulate if not yellow~~

Precip Egg Albumen
with $NH_4 SO_4$ if it precips
Try it on Hevea Latex, if
it dont Coagulate Latex
we have a means of removing
Albumin from Latex

Try 10 grams of Pomeitho
bark
1st acetone
2nd Ether for 1/2 hour
3 ~~[illegible]~~ Benzol

The Ether to remove oils wax
without removing much
Rubber

Majority of Vegetable Alkaloids
~~[illegible]~~ are insol in Water
best solvent is Alcohol
usually they are dissolved
by Chloroform Ether Benzol
+ Amyl alcohol
There water sol is strongly
alkaline to Litmus
+ precip hydroxides from
Metallic salts,
Alkaloids Combine directly
with acids usually
Crystalline + often sol
in water but generally
insol in Chloroform
+ Ether. Note

See Watts Applied Chem
Vegets-Alkaloids ?
gives long article
lots of points

~~See if I saved or Schwerka~~
~~saved the Jatropha Texana~~
~~rubber from Bone black~~

~~Put 10 Drops Milkweed~~
~~in beaker, add 1/8" water~~
~~stir, then mix various~~
~~powders, MgO, Chalk, Bone~~
~~black, Fuller's earth,~~
~~Charcoal, hydrated clay~~
~~Mix in Agate mortar &~~
~~dissolve in Ethyl acetate~~
~~Bisulfide Carbon,~~
~~Dichloroethylene~~
~~Carry on a series Expts~~
~~But try Hevea 10 drops~~
~~first.~~

~~Collect the bark of the~~
~~balance of the Jatropha~~
~~Root bark without~~
~~drying. put in ball mill~~
~~& work it same as we~~
~~did with Poinsettia~~
~~bark not dried.~~

~~Schwerka try 150~~
~~grams of A1 Crepe in~~
~~Dichloroethylene~~
~~Ethyl acetate~~
~~Chloroform~~
~~Bisulfide Carbon~~
~~Benzol — to get~~
~~weight & quality of~~
~~Rubber —~~

~~Hart to grind in ball~~
~~Mill 350 grams~~
~~Sublata~~

~~Hart make up saturated~~
~~Sols of~~

~~Acetate, Sulphate, Nitrate~~
~~Citrate & other Sal's iron~~
~~Salts, also ferric salts~~
~~filter & put in Vials nearly~~
~~to top.~~

~~ditto Zinc Aluminum Ni~~
~~Co, Boron & all other~~
~~metals,~~

~~ditto the organic salts~~

~~order 2 more gross~~
~~of bottles~~

~~Make holders same~~
~~as with the essential~~
~~Oils as we need them~~

~~Fred Ott to fix up a~~
~~small mixer paddles~~
~~running apposite with only~~
~~004 clearance to fit into~~
~~a test tube the length~~
~~only 2" inside long~~
~~& 1 inch wide to act as~~
~~a churn to break the~~
~~Coating of the rubber~~
~~globule +~~

~~Arrange for a smaller~~
~~test tube on reciprocator~~
~~so can use an immiscible~~
~~solvent w latex & afterward~~
~~seperate by a separatory~~
~~funnel Dally [illegible]~~
~~& Evap to get rubber~~

Acc of Syrica Latex
is Acid or Alkaline

Try Bone black slightly
acid : also another
lot slightly alkaline
Ba hydrox with Coarse
bone black -
Dry & Exhaust Benzol
& Acetone as before

Filter out 30 drops
Syrica latex ~~[illegible]~~
thru filter paper then
Coagulate Each separate

If formaldehyde is added
to filtered Latex followed by dilution
with a 10% solution of
Sodium sulphate
in this way rubber can be
obtained free of protein
Even with Castilloa —
Syrica latex dont work

For shaking tube

Use Bi Sul Carbon + 5%
Anhydrous Denat alcohol

also Dichlorethylene
and also
Ethyl Acetate

get agar agar
Pectin.
Gelatin -
Juice from, Kale, Spinach, lettuce
Mucillage, Tragacanth, +
Gum, Etc. filter if possible
and settle till clear as if a
milk see if goes thru filter
paper Then

Try various amounts of
Harvest latex + wat quality
of rubber if plastic or retains
after a pull - Also dissolve
resins in alcohol & precip by
water + add Hevea

Try some [illegible] latex
with 10 20 40 % by
drops of Hevea then
Extract by best solvent
Solvent alone or previously
Acetone then solvent

See if Canes of Cassava
planted

Treat Ball Mill
Poinsettia bark
nugget rolled out in
sheets cut up treat
with different reagents
to Eliminate bark

S + Cl HCl for stop
stickiness + ~~ZnCl~~
also slightly oxidize

also crush -

also for bark ZnCl
[illegible] to
Viscose also H_2SO_4
+ Caustic Soda Etc

~~Try ball mill with
sand to Cut banks etc
finer -~~

~~Redistill German
Dichloroethylene
& Separate dif B Points
& test each for dissolving
Crepe rubber - BP 131"7~~

~~Try Seneca latex
with a little H_2O_2 also
permanganate K also
hypochlorite all in
Variable amounts to
harden the plastic filament~~

~~Cupric hydrox d~~ ~~[illegible]~~
~~[illegible]~~ ~~precipitate
plant protein~~ ?

A Stutzer (Bied Centr
1880 875 878)

Abstract Chem Soc Jnl
p 660 Vol 40 1881
Rittenhausen first pointed
out that ~~[illegible]~~ proteins were precip
by Cupric oxide he estimated
protein in milk this way
The process requires exact
neutralization by an Alkali
which is troublesome.
Stutzer improved it thus
He employs perfectly
neutral Alkali free
hydrated Cupric hydroxide
Very dilute $CuSO_4$ is
decomposed with very

dilute soda sol to alkaline
reaction, the precipitate is
is thrown on large filter &
quickly washed, filter pierced
& washed into a flask then
filled with Cold water
& washed by decantation
until perfectly neutral, precip drained
on a filter, dried between filter paper
then rubbed up with water
or Alcohol into thick semi fluid
Condition, ~~[illegible]~~ take 100 cc
water containing the plant
juices bring almost to boiling
the Reagent is added =
precipitate separated & washed
with hot water - then twice
with absolute Alcohol to
remove moisture - then dried at
100c, he then determined
the Nitrogen will it
precip the rubber

There is doubt, its
strange the rubber chemist
all speak of bad effect
of Copper,

Albumen is sol in
Soda Carbonate
if this is so could dilute
Latex add Na_2CO_3 & filter
if the rubber colloid
dont go through, NG I think
~~[illegible]~~
Idea — Evap to dryness
this would precoagulate
the Rubber & then the
~~at~~ Albumin being combined
with Na_2CO_3 would
dissolve

~~Another way dry latex~~
~~or bark this would dry~~
~~the Rubber & proteids~~
~~then Exhaust proteids by Na_2CO_3~~

then wash, dry + exhaust
with Ethylene Dichloride
Etc without Thimble

Try coagulated Egg
albumin; use of the
sol in Na_2CO_3
after it has been dried

S

Try egg albumin. already
dried, dissolve water
add 25% of the wt of the Albumin
~~by~~ as latex of Hevea -
Dry at 212, then ~~[illegible]~~
dissolve powdered mix by
Carb soda should leave
rubber pure & filtered
Very -

Rittenhausen
Pflügers Archiv 21 - 81-104
Albuminoides of oily seeds

3 methods

1st Extraction with water to
which small quantity ~~[illegible]~~
of Potash added (4 grm to 2½ liter)
& subsequent precipitn by
Acetic acid or H_2SO_4, washing
with water, alcohol + Ether
& Drying over H_2SO_4

2nd Extraction with dilute
Lime or baryta water

3d Extraction with 10% sol
NaCl, or NH_4Cl KCl CaCl
BaCl MgCl which act the
same These act as bases
+ the Albumin Combines
& dissolves in Water
They can be precipitated by
by acid Try

Xanthic acid as precipitant of Albumin

Albumen in minute quantities precip as flocks with few drops Xanthate of Potash
Albumen sol should be slightly acid, temp 35 @ 38°C

Ber 13 p 1062 1064

Papaya the Mamao
Macho fruit has milk & contains Rubber, Mamao femea contains a resin & Mamao Melao a dark oil

---

fruit is gathered when full grown but unripe condition & then contains milk which disappears on fully ripened — Rubber very small 0.04% water 85.3 Sugar 7%
Long abstract given other information
Chem Soc jnl 38 1880
p128 129

~~Original paper~~
~~p Spica Gazzetta~~
~~9 p 295 299~~
Original paper J Peckolt
Pharm J transactions [3]
10 - p 343-346

Vegetable Casein is insol
in water but is rendered
Sol by organic acids &
Neutral Alkaline Phosphates

Elliot & Glover Chem Solubilities
Very good
Here is another Extract
Mercuric Chloride precips Albumen
from its solution in many salts
as phosphate, Sulphate, Nitrate
or Borate of Soda, Nitrate
or Sulphate of potash & the
like.
These precipitates are often
Sol in an excess of the
Compound of Albumen & the
Salt They are also
Sol in phosphoric acid
in Ammonia & in Potash
an Excess of acetic

↓ nale
acid however always produces
a permanent precipitate
when added to these
solutions.

Coagulated Albumin
is sol in warm acetic
Tartaric or O Phosphoric acid

[illegible] Albumen sol in
dilute Sol in presence
of pepsin

Vegetable Albumen

Sol water, Coag by heating
Sol in acetic

All albuminoids when
oxidized by K permanganate
yield a certain quantity
of Urea.

Béchamp Compt Rendu
94 - p 1276 - 1281
White of Egg has 50%
of substance precipitated by
basic lead acetate
40% of a substance precip
by ammoniacal lead acetate
& 10% which is not
Coag by heat
Same action with Gluten
etc Vol 42 1882
Chem Soc jnl

~~Leaves of Ficus Elastica~~
~~in Paraguay & Uruguay~~
~~(see Latitude)~~
~~Contains~~

~~Rubber~~	~~0.30~~
~~Sugar~~	~~1.10~~
~~Tannin (red)~~	~~1.00~~
~~Fibrin~~	~~1.80~~
~~Wax blue green~~	~~0.43~~
~~Starch~~	~~5.37~~
~~Lignose~~	~~17.00~~
~~Ash~~	~~0 27~~
~~Water~~	~~72 73~~

~~Thinks there are several~~
~~of the Ficus could be grown~~
~~in Warmer parts of Europe~~
~~Sack Compt R 94 1256~~
~~1258.~~

Pepsin dissolves 100 times its weight of Coagulated Albumin
Papain 28 times

~~Try Syrica very dilute use acetic cover up & let it stand for 3 days see if rubber has come to top,~~

~~The plant I pulled up Euphorbia Polychroma~~
~~NG - Start drying it for test~~

~~Write Firestone that if he gets more Hevea Latex to send me a gallon Also~~

~~I would like a pound or so of the lowest grade of each African & low grade resinous Rubber sent me, if he has none can he give me address of a broker who handles low grade rubber~~

~~I have plenty of Guayule rubber~~

~~Try bed of MgO etc & filler Milkweed then use 4 grms NaOH in 2500 cc water~~

~~The Milkweed latex having greater than Hevea~~

Try HCl on Sygman
Cold + hot to coagulate

Also Acetic dif %
one of x% coags ok a higher
or lower % depolymerizes
this may be the unknown
factor
Ditto try Sulphate Ammon
to acid vary %

Test at garden on
Latex plants

Asclepias Incarnata

Hardly any latex
no free Latex sticky
no Elasticity

Campanula Carpatica
low shrub 4" high poor
grower Latex scarcely any
& Bluish
This plant must be
tested in Soxhlet.

Euphorbia Polychroma

Very little Latex no
Elasticity Sticky
Dry + use Soxhlet

Euphorbia TEH May

Lots shoots no leaves
Brown - Viscin
Large amount Latex
probably no rubber no
Elasticity & Short piece
breaks + Soxhlet

~~Euphorbia Pendula~~
~~This is another many~~
~~stem no leaves like~~
~~Sectlata - Brown~~

~~Not a bit sticky~~
~~no elasticity it breaks~~
~~on slight pull —~~
~~Wrapped in alcohol~~
~~may have rubber~~
~~in Soxhlet -~~
~~Acetic only a little~~
~~better can tell until~~
~~Soxhlet test, may~~
~~be a trace of rubber~~

~~California Poinsettia~~
~~New sprout. No Elasticity~~
~~A sticky acts like~~
~~Pendula probably~~
~~No Rubber~~

Hollywood [illegible]

~~Euphorbia Splendens~~
~~prickly stem, can't get~~
~~test, poor latex must~~
~~use Soxhlet.~~

~~Poison plant~~
~~Succulent~~
~~Euphorbia Myrsinites~~

~~Same as others sticky~~
~~no Elasticity~~

~~Get address in NY~~
~~of importers of Rubber~~
~~Outside Hevea~~
~~Brazil Ceara Especially~~

Columbia Street studio
7-18-27 probably wrong
Heart Cant remember pulling
up = Acts strange dont
break up in alcohol like
all the others, it has no
strength - not sticky
Quick, Try soxhlet

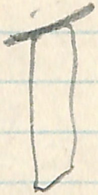
Stewart G 28
5 plants Atkinson
says its "Snow on the
Mountain" some latex
no elasticity

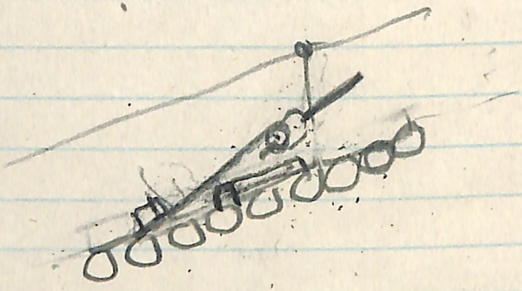
15 Aug/27

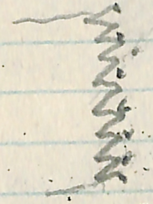
Starcher H 17
Asclepias Incarnata
he says not enough
Latex to last - very
hard to cut

When in Florida connect
top limb by metallic band
around it + sheet - This band
to have a wire leading to a
battery of 200 Volts + connected
to ground. Try band neg + also
P - when on closed system
Tapper is in Operation If band
dont do it bore holes at top
of limb + insert electrodes

Latex is chgd Negative







56" in 180 days

180 (560 (3   200
40   6

3/56 (180 (3 -
168

3 days 1 inch

6280
6800

60 bushes
3 ft
hour - 180 ft [illegible]

33
7
23.1

9 ft

180
9
1620

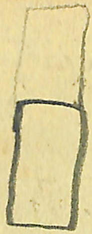
12800 (42000 (3
38400
36000

1620
3.3
10
33

6800 ft - length
3 ft bush Tipped per minute
storage battery truck
180 ft advance per hour
or 1600 sqr ft hour
8 hours
12800 sqr ft daily
3.3 days per acre
for clipping

10 acres 33 days
7 acres 24 days

Wounding may
be best after all



12
3
36

½"

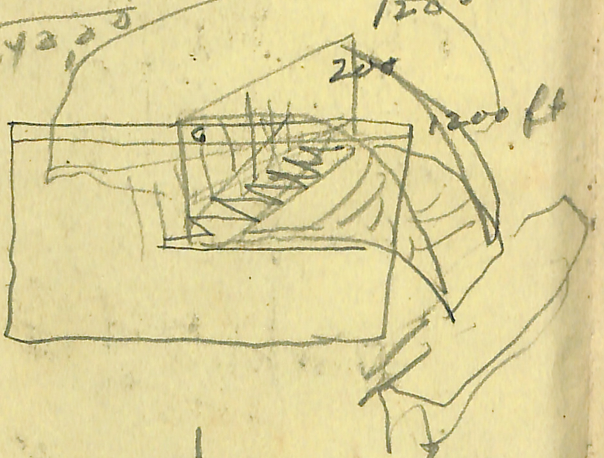
Scoles

34 tons - year

Whale 1%
3
4

6000 lbs -
4
24000

200
6
1200



1200) 42000 (34
36000
6000

1242-
30
37 26

34 Rows 6 ft each
200
6800 (13
5240
156

3 ft brush - 1 per minute - 6800 ft long

13 miles per acre

3 ft per bush 5 minute

1 hour 36 ft advance hour
8 hours
288' day

300 ft day

300) 6800 (22 ft
600
800

days 1 acre

6800
6
40800

3) 6800
2266
480) 2266 (4.7. brushes minutes
1920
3460